

Trio ARMS new *Motion Coordinator*

- Latest generation *Motion Coordinator* controllers aimed at 2-servo/3-stepper and 4-servo/5-stepper applications
- Higher processor speed and increased core capacity adds performance enhancement
- Lower cost over existing *Motion Coordinator* range

Tewkesbury – UK – November 2011: Trio Motion has expanded its *Motion Coordinator* range with two new motion and machine controllers based on the latest 533MHz ARM11 processor - flexibly and economically providing new levels of multi-tasking servo or stepper control for high performance automation.

The MC403 will control two servo axes with a master encoder input, or three stepper axes; whilst the MC405 has a choice of four servos plus a master encoder or five step and direction axes. The 6MHz servo encoder ports are selectable for incremental linear or rotary feedback or may be configured for SSI, Tamagawa and EnDat absolute types. The maximum stepper output frequency is 2MHz. Any combination of servo and stepper axes is possible.

The new MC403 and MC405 build on previous *Motion Coordinators* with an abundance of performance enhancements that the ARM11 core has enabled. With more than four times the clock frequency at 533MHz, an improved selectable servo update rate from 125 to 2000 microseconds and a maximum data table size of 512K, the double floating point precision processor delivers much improved servo loop accuracy with fast 64 bit real-number mathematics and 64 bit integer position registers.

The ability to use multi-tasking TrioBASIC and/or IEC 61131-3 programming support allows OEMs and end-users the maximum flexibility for tightly synchronised, high throughput motion and machine control. The MC403 and MC405 will suit applications where any combination of linear or interpolated motion, electronic gearbox or linked axes need to be coordinated with machine I/O and sensor interfacing. Trio's *Motion Perfect* support software provides a fully scalable single programming environment across all of the *Motion Coordinator* range for setting up, motor tuning and diagnostics. Other programming possibilities for both models include TrioPC for ActiveX with HPGL and DXF import capability. A G-code programmable option is coming soon.

These new *Motion Coordinators* include a complement of built-in digital and analogue I/O with a fast dual position input capture capability on every axis. Electronic switches with supporting FIFO's on each axis allow outputs to be accurately toggled, for example for laser control. A CANbus expansion port provides a CANopen master or DeviceNet slave as well as optional TrioCAN I/O modules for up to 512 digital I/O points and 32, 12bit analogue inputs and 16 12bit analogue outputs.

Both models have a built-in RJ45 Ethernet port for programming and connection of HMI or other devices; protocols available include Modbus TCP and Ethernet IP. There is also both RS232 and 485 serial ports as an alternative for communications, or for use with Modbus-RTU, Hostlink or user programmable devices. Memory expansion is made possible with a Micro SD card slot that also allows program and configuration data transfer across machines.

The attractive and neatly packaged MC403 and MC405 *Motion Coordinators* suit enclosure, panel or DIN-rail mounting with a single-piece cast metal back plate that provides an integrated earth chassis for improved EMC performance. A combination of removable screw terminals and D-type connectors provide fast and convenient interfacing.

The discernable differences between the two models, apart from the axis count and the encoder provision, relate to the multitasking capability and the number of virtual axes available, as well physical variations such as I/O count, size and status display: The 2-servo/3-stepper MC403 can run six simultaneous tasks and has a total of eight axes in software, whilst the MC405 runs up to ten tasks with sixteen axes in software. Axes not assigned to built-in hardware can be used virtually which is particularly useful for simulated motion or event timing. Both controllers have eight 24VDC inputs and two 12bit analogue inputs, but the physically larger MC405 has ten rather than six registration inputs and eight rather than four 24V bidirectional I/O channels. Furthermore the MC405 includes an LCD display in addition to the two status LEDs available on the MC403.

The MC403 and MC405 *Motion Coordinators* are aimed at relatively low axis count applications. Trio Motion's MC464 *Motion Coordinator* offers a diverse multi-axis capability for up to 64 independently configured servo or stepper axes together with a very wide range of fieldbus protocols, increased multitask support and numerous additional features where more complex motion and machine control is required.

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High resolution image download and text available from Tactical MarComms – i under downloads for Trio Motion

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